



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,088	12/30/2005	Takafumi Yoshimura	396.45629X00	8126
20457 7590 07/31/2007 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			EXAMINER NAGUBANDI, LALITHA	
			ART UNIT 1621	PAPER NUMBER
			NOTIFICATION DATE 07/31/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

officeaction@antonelli.com
dprater@antonelli.com
tsampson@antonelli.com

Office Action Summary	Application No. 10/563,088	Applicant(s) YOSHIMURA ET AL.	
	Examiner Lalitha Nagubandi	Art Unit 1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/9/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Office Action

Status of the Claims

Claims 1-20 are pending in this application. Claims 1-20 are considered for examination in this office action.

Priority

This application is a 371 of PCT/JP04/09696 dated 07/01/2004 which claims benefit of JP 2003-270652 dated 07/03/2003, JP 2003-374481 dated 11/04/2003, JP 2003-374482 dated 11/04/2003, JP 2003-374483, JP 11/04/2003.

Specification

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicants' cooperation is requested in correcting any errors of which applicant may become aware of in the specification.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1- 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Igari et al (JP 2003012597 dt. 01.15.2003) and Aizawa et al (JP 2003089673, dt.03.28.2003) and in view of Singh et al (US Pat. No. 5892138).

Applicants claim a process of producing 5-iodo-2-Me-Benzonic acid from 2-Me-Benzonic acid. The process comprises of iodinating 2-Me-Benzonic acid in presence of a microporous compound, iodine, an oxidizing agent, and acetic anhydride. The dependent claim further embodies the use of zeolite as the microporous compound.

Further, the process discloses the product, 5-iodo-2-methyl benzoic acid with a purity of 99% or higher.

Determination of Scope and content of the Prior Art (MPEP§2141.01)

Igari et al teach (See abstract JP 2003012597) a process of iodination of methylbenzoic acid with iodinating agents in the presence of acid catalysts in solvents. The process yields 95.7% of 5-iodo-2-methylbenzoic acid.

Aizawa et al teach (See abstract JP 2003 089673) a process of separation and purification of 5-iodo 2-Me-Benzonic acid in 98.4% purity.

Singh et al (US Pat. No. 5,892,138) teach a process of halogenation in presence of zeolite catalyst.

Ascertainment of the difference between the Prior Art and Claims (MPEP §2141.02)

The difference between the instant method and Aizawa et al is that the instant process requires a microporous compound for the iodination to be carried out in presence of acetic anhydride. Further the microporous compound is embodied as a zeolite. Aizawa et al is silent about the use of zeolite during the iodination process. Further, Aizawa does not teach about the purification of the product obtained.

Igari teaches the separation and purification of the 5-iodo-2-Me-Benzoic acid, but Kazuo is silent about the use of zeolite or any microporous compounds during iodination process.

Singh et al teach the process of halogenation including the iodination in presence of microporous compounds like zeolites. However, Singh differs from the instant application by using a different substrate for the iodination process.

Finding of prima facie obviousness – rational and motivation (MPEP § 142-2143)

It would have been obvious to one having ordinary skill in the art to have used the zeolite or microporous compounds as disclosed by Singh during the process of halogentaion/iodination in Igari's process, as a modification of the process in order to obtain better yields with a reasonable expectation of success. Also a skilled artisan would purify the product obtained from the teachings of Akira, as it is advantageous to use a pure product for further biological/clinical studies.

Accordingly, one of ordinary skill in the art would be motivated to prepare the instant products with high purity by modifying the process parameters, using routine practices of optimization and cost reduction practices, requiring no inordinate degree of experimentation.

Therefore the subject matter as a whole would have been obvious to one of ordinary skill in the art of process chemistry and one would have been motivated to combine and modify the teachings cited above at the time of the invention and obtain a reasonable expectation of success.

Conclusion

No claims are allowed

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lalitha Nagubandi whose telephone number is 571 272 7996. The examiner can normally be reached on 6.30am to 3.30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eyler, Yvonne can be reached on 571 272 0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Lalitha Nagubandi
Patent Examiner
Technology Center 1600

July 19th, 2007.



Samuel A Barts

Primary Patent Examiner
Technology Center 1600